PD ABS-006

PROJECT ACTIVITY COMPLETION REPORT (PACR)

CENTER FOR TECHNOLOGY DEVELOPMENT (CTD)

1 ***Summary:***

The $ 10 million CTD project (1989-1998) was an experimental undertaking designed to contribute to the broad science and technology sector goal of accelerating the pace and improving the quality of technology application to product and production process development in existing and new businesses in industry, health, agriculture, and other areas important to Indian development The purpose of CTD was to stimulate the process of technology development and commercial use of that technology in India This purpose has been achieved by providing support to develop and coordinate elements of the Karnataka region's technology infrastructure through the funding of (a) applied technology centers, (b) human resources development, and (c) the procurement of a variety of physical and technical resources The projects' efforts were initially focussed in the Bangalore area of Karnataka At the core of the CTD project was the establishment of the Center for Technology Development (CTD Society), a non-government organization, registered under the laws of the state of Karnataka on June 27,1988, as a non-profit autonomous institution ICICI served as the financial conduit through which USAID funds were channeled to CTD The relationship between ICICI and CTD was defined by a Memorandum of Understanding (MOU) which was made a Condition Precedent to disbursement of USAID project funds

CTD project is a regionally based technology development effort having a potential for adaptation by other Indian states CTD has served as a forum through which leaders from business, financial institutions, government, and academia have worked to strengthen and coordinate Karnataka's technology infrastructure CTD activities were focussed in four areas, viz Food Processing, Informatics, New Materials, and Dry Land Development To achieve its goal of regional economic development, CTD has established a network of organizations that has created social capital by linking diverse parties, identifying shared interests, and developing opportunities of mutual benefit CTD has leveraged a key resource – retired executives from the Indian civil service to create economic development activity It has combined expertise with low cost and personal altruism with clear organizational benefits USAID assistance of $7 6 million to CTD was over by June 30, 1998 However, the Host Country Contribution (HCC) both cash and in-kind aggregated $72 2 million CTD has already become sustainable, mainly because of the venture capital window, the National Venture Capital Forum (NVCF)

Lessons Learned:

A Project Approach

Real world development is an extra-ordinary complex undertaking involving a maze of inconsistent and sometimes contradictory needs and actions It is not nearly so simple or clear-cut as the following four lessons would imply

1 Regional development is a process, not a project
2 Concentrated effort in a few focussed thrust areas yield quick results
3 Leveraging of funds by co-ordination with multiple financing agencies is essential
4 Sustainability and replicability are hall marks of a good regional development project

However, the above four lessons collectively constitute an outline of an approach or methodology for regional development The central feature of this methodology is but a specific application of a broad democratic premise Put People First

B Implementation Approach

CTD's goal is to commercialize laboratory level scientific knowledge into market-driven goods and services for the global market place CTD neither conducts basic research nor does it deal with commercially available technology that can come as joint ventures It concentrates on all aspects of commercialization of technology after the basic research is over i e it concentrates only on applied research In order to promote industry-institute interaction, CTD promoted two non-profit companies under Section 25 of the Indian Companies Act for the commercialization of technologies developed at leading scientific institutions One such company, Agricultural Technologies and Services Private Limited (Agritech) was promoted with the University of Agricultural Sciences, Bangalore and Dharwad, Central Horticultural Experiment Station, Chettali and College of Agriculture, Naville, Shimoga to commercialize and market agricultural, horticultural and allied technologies developed by various R&D organizations

CTD has a Governing Board comprising of 12 members representing industry, R&D institutions, academia, government of Karnataka, and financial institutions The Board meets once in three months to review the progress of activities, approve policy matters and periodic management plans as well as to provide overall guidance CTD's Executive Committee (EC) and Finance Committee (FC) comprising of three members each have been delegated powers by the Board to deal with requisite administrative and financial matters These committees generally meet once in a fortnight CTD is an eclectic organization, which can select and

absorb the best from the various available inputs Over the years, it has evolved a distinct style of functioning that is characterized by its ability to arrange personal networking at the highest policy making level to leverage project funding for speedy implementation CTD adopts a total system approach to provide missing linkages for transfer of technology from academic and research centers to the private sector for commercialization CTD does innovative co-financing with other financial institutions, especially for venture capital to accelerate the commercial introduction of the new technologies

C Sustainability

CTD has a small and compact Secretariat CTD staff cost is kept at minimum as all its top personnel work pro-bono It is not an organization with physical plants and equipment CTD's key assets can be summarized as its members' commitment, expertise and social networks Institutions assisted by CTD are sustainable without distorting the local networks and socio-economic environment These institutions also served as CTD's resource centers to implement the various programs

CTD does not itself have substantial financial resources but is evolving to generate income through its work One source, of course, is the endowment of patron members However, CTD and the NGOs promoted by CTD (CPF, CCC, Agritech, Naltech etc) can generate income through consulting, education and entrepreneurial projects with income like true potato seeds (TPS) Also, CTD's venture capital window (NVCF) has contributed to its sustainability

D Replicability

CTD has potential for adaptability in other parts of India The Kumaon Development Center (KDC) has been established by CTD as an independent Society for the development of the Kumaon Division of Uttar Pardesh, comprising three hill districts of Nainital, Pithoragarh, and Almora The successful functioning of KDC has proved the validity of the CTD experiment for regional development

2 ***Project Background***

The CTD project was in conformity with the USAID/New Delhi Country Development Strategy Statement of mid-1980s which emphasized the importance of the entire science and technology (S&T) process It was the third project in the series of bilateral projects that focussed on the same sector goal CTD followed the Program for Advancement of Commercial Technology (PACT) and Program for Acceleration of Commercial Energy Research (PACER) projects by contributing to the enhancement of the overall process of technology change with a focus on improving the linkages between numerous groups involved in the

movement of the technology to the marketplace Initially with a regional focus, CTD project aimed at helping India exploit its own capacity for commercial technology development, so that the country can become less dependent on adapting foreign source technologies to business or government needs

CTD initiative was based on the U S model of economic development at the regional level that links technology to economic development The framework of the model suggested that regional or state economies that comprise a nation are themselves dynamic and are composed of many different industries whose development is often uneven from place to place The economic health of these regions depends on nurturing, directing, and reacting to economic activity in a defined geographic area as global competition increases the rate of regional economic change Businesses, on the other hand, are not geographically limited in how they can increase competitiveness, and therefore are not tied to a particular region or state Technological challenges confront industries as they adapt to competition and move through their life cycles These technological challenges occur at three different levels i) Technology Deployments – putting existing, "off the shelf" technology to work (i e computer-aided design), ii) Technology Application and Adaptation – taking scientific and technical discoveries or tools and applying or adapting them for specific purpose in products and processes development, and iii) Technology Discovery – fundamental basic research designed to discover new principles (i e super conductivity) and new tools (i e rapid solidification technology) To respond to these technology changes, industry draws on the technology infrastructure that exists in the economy The four types of technology infrastructure resources needed for each level of technology challenge are i) Physical Resources, ii) Human Resources, iii) Financial Resources, and iv) Technology Institution Resources

Lots of efforts went into the designing of CTD Four sites were considered for the location of CTD project Hyderabad, Andhra Pradesh, Ahmedabad, Gujarat, Pune, Maharashtra, and Bangalore, Karnataka Initial visits to these areas resulted in the selection of Karnataka as the most appropriate site for this regional project A three day workshop on "Technology Development, Finance and Human Resources in Karnataka sponsored by USAID/India and Confederation of Indian Industry (CII) was held in Bangalore in March 1987 Four industry focus groups, viz Informatics, Food Technology, Industrial Machinery and Equipment, and Dry Land Agriculture met for working sessions Based on the discussions in the workshop A D Little, Inc (ADL) prepared a concept paper and followed up immediately with key participants to determine next steps Pursuant to ADL report, the Government of Karnataka (GOK) proposed the scope, purpose and composition of a Technology Development Board and a secretariat, having an all India mandate with an initial focus on the Bangalore area of Karnataka USAID contracted Stanford Research Institute (SRI) International to study Karnataka's regional economic infrastructure and make specific recommendations for CTD action program SRI report "Karnataka

in Transformation" served as the basis for writing the Project Identification Document (PID) for CTD project

Design Issues

The PID was approved by USAID/Washington in February 1988 without any major issues However, a number of concerns were raised in the approval cable, e g Policy Environment and Dialogue, Project Focus and Sustainability, Competition with U S Exports and Intellectual Property Rights, and Proposed Level of Technical Assistance (TA), and additional guidance for Project Paper (PP) development was also provided with respect to Funding Mechanism and Budget, Private Sector and Small Scale Business Participation, Training, and Monitoring & Evaluation These were appropriately addressed in the PP design process The Project Agreement was signed with the GOI on July 31, 1989

USAID Contribution

USAID assistance of $ 7 6 million, over a period of nine years, was used to support the growth and maturation of the CTD organization and specific project activities in the four focussed areas USAID assistance was passed through ICICI The major elements of financing were local TA ($1 1million), Training ($0 9 million), Commodity Procurement ($3 8 million), Monitoring & Evaluation ($0 3 million), Other Costs ($ 0 1 million), and Venture Capital Assistance ($1 4 million) The recurrent costs of supporting the CTD was met by the GOK ($ 0 5 million) In addition, over $ 70 million was provided by the private sector in cash and kind towards CTD supported projects/activities

Expected Accomplishment

CTD project was expected to have an impact on both the overall regional technology process and on specific technological advances The specific effects could be measured quantitatively by noting how many people trained, how many Applied Technology Centers established, how many businesses use the ATCs, and how productivity has increased However, assessing the effect on the technology process was more difficult Nonetheless, if all the indicators related to specific industries are improving, it can be assumed that the CTD initiated process as a whole is improving One of the goals of the project was for the CTD to become a fully operational organization, capable of handling all aspects of its program including all contracting, accounting, and monitoring requirements Thus the functioning of CTD will signal improved communication in the technology community

The expected project outputs include (a) an operationally effective CTD engaged in stimulating the process of technology development and commercial use of that technology, (b) an expanded and strengthened R&D base for technological development, (c) an expanded and enhanced human resource base for improved technological applications, (d) an effective network among key institutions

supporting technology development and application, (e) a regular updated technical information system for Karnataka industry and research groups, and (f) a strengthened entrepreneurship environment, particularly at the small and medium scale level

Evolution of the project

The CTD project was designed to contribute to the broad S&T sector goal of accelerating the pace and improving the quality of technology application to the product and process development in areas important to Indian economic development The purpose was to stimulate the process of technology development and commercial use of that technology in India To achieve this purpose, CTD chose the following three high priority action areas

1 Creation of Applied Technology Centers in its selected focus areas of Food Processing, Informatics, Dry Land Development, and New Materials to directly respond to the technology needs of Karnataka's industry
2 Development of Buyer–Supplier development initiative (BSDI) that focused on the technology and human resources needs of Karnataka's industry
3 Fostering of Industry –Research Institute linkages to quicken the pace of technology development in Karnataka

Project Approach

CTD's multi-disciplinary problem-solving approach involved businessmen, academicians, policy-makers and development bankers This approach made many observers feel that CTD is a process and not a project The emphasis was not on what was done but how it was done It adopts a total system approach to provide missing linkages for transfer of technology from academic and research centers to the private sector for commercialization

CTD has established good working relationship with industry organizations in Karnataka such as Confederation of Indian Industry (CII), Associated Chambers of Commerce (ASSOCHAM), Indo-American Chambers of Commerce (IACC), Greater Mysore Chambers of Industry (GMCI), Association of Women Entrepreneurs of Karnataka (AWAKE), and Karnataka Small Scale Industry Association (KASSIA) CTD has developed close interaction with companies like IBM, Tata Elaxi, Tata Information Systems Ltd, Digital Equipment, Wipro Infotech, Texas Instruments and others CTD has also forged a network of R&D and training establishments These institutions serve as CTD's Resource Centers to implement the various programs CTD actively collaborates with the existing institutions of repute, encouraging further development and providing them with the modern state-of-the-art equipment

3 *Implementation Mechanism and Status*

Administrative Structure

At the core of CTD project is the 'Center for Technology Development' (CTD), a Society registered under the laws of the State of Karnataka This is a non-profit, autonomous institution established to implement the CTD project CTD is comprised of a Governing Board, two Committees, a Secretariat and Industry Focus Groups The Board meets once a quarter to consider and approve policy matters and CTD's management plans The Board also periodically reviews the progress of CTD projects/activities The Executive Committee and Finance Committee, each having three members, has been delegated with requisite administrative and financial powers These committees generally meet bi-weekly to review all activities and projects, consider new proposals and deals with all financial matters CTD has a small and compact Secretariat, located in the Indian Institute of Science (IISc) campus Its staff costs are negligible as all its top personnel provide pro-bono services

Program Focus

CTD focus on industrial technology concentrates efforts on applications rather than basic research and development CTD activities, driven by market concerns related to both existing and emerging industrial sectors, are highly focussed in four areas, viz Food Processing, Informatics, New Materials and Dry Land Development CTD functions broadly include

- To serve as an intermediary planning and oversight body for identifying and responding to technology infrastructure problems in Karnataka,
- To serve as a facilitating organization to bring together leading representatives of industry, R&D, academia and financial institutions to perform analysis and planning for a specific program of near-term and medium-term technology infrastructure development and coordination initiatives,
- To provide oversight in the implementation of CTD supported programs and technology building initiatives,
- To seek out and coordinate use of assistance from other foreign donors,
- To develop organizational capacity to contract both locally and overseas, ensure adequate financial accounting and control, and to monitor CTD sponsored activities,
- To ensure that technology infrastructure development initiatives emphasize first and second level technology challenges, and
- To initiate activities in institution, human resource, physical resource development that focus on organizations that assist small and medium-sized enterprises, including suppliers

Proposal Review and Approval Process

CTD project proposals are developed by industry Focus Groups (Working Groups) consisting of representatives of academia, R&D, financial institutions and industry either by themselves or with outside TA Each proposal must address the selection criteria, such as overall economic rationale, market demand, business participation, autonomy of proposed institution, emphasis on the use and adaptation of existing technology, utilization of best practices, intellectual property rights etc developed USAID in consultation with CTD leadership The proposals developed with attention to these criteria are delivered to CTD Secretariat for review After review, the Secretariat presents these proposals to CTD Executive and Finance Committees for approval, subject to ICICI and USAID consultation The proposals approved by CTD Executive and Finance Committees are placed in the next Governing Board meeting for ratification

Roles of ICICI and USAID

CTD Grant Agreement was signed between ICICI and USAID ICICI executed a Memorandum of Understanding (MOU) with CTD to implement the project on its behalf USAID project funds were routed to CTD through ICICI ICICI representatives served on CTD Governing Board and Executive Committee USAID has been consulted on the proposal approvals, especially venture capital assistance proposals USAID also participated in CTD Governing Board meetings as observer

Mid-term Evaluation

A scheduled mid-term evaluation of CTD was conducted in May 1993 The purpose of this evaluation was determination of the progress of the project, identification of the issues and recommendations of any necessary modifications The evaluation was conducted by a team of five members contracted by Eccles Associates, New York Team was headed by Dr Jack Bishop The other members were Drs Atul Wad, Kerri-Ann Jones, R Mahadevan, and Y S Rajan, Advisor, Department of Science and Technology The evaluation assessed the project in terms of the concept, implementation, accomplishments, and future directions The team found that CTD developed principally along the lines outlined in the original project paper The project is a process for the mobilization of resources to foster regional economic growth through technology development and use CTD successfully initiated this mobilization The evaluation made certain recommendations that were conceptual and programmatic in nature and included short-term administrative and business issues, as well as long-term support necessary to develop and maximize the impact of CTD project USAID Mission Review Committee (MRC), in the meeting held on June 9, 1993 approved the evaluation report and accepted most of the recommendations contained therein while rejecting some of the recommendations made by the team A copy of the Minutes of the MRC June 9, 1993 meeting is attached

(Annex 'A') No action is pending on the evaluation recommendations that were accepted by the Mission

Project Status

CTD activities are confined to four focus areas identified in the project, viz Food Processing, Informatics, New Materials, and Dry Land Development and five cross-cutting areas, viz Human Resources Development, Venture Capital, Women-in- Development, Networking, and Technology Information Exchange CTD promoted the creation of new facilities for the development and commercialization of suitable technologies by funding selected projects and activities involving the likely user industry, each with a well defined mission within its chosen field of specialization In this regard, CTD has established following three Applied Technology Centers

1 Advanced Information Technology Center (AITC) for informatics at National Aerospace Laboratory (NAL), Bangalore
2 Center for Processed Foods (CPF) for Food Processing
3 Applied Technology Center for Plus Trees (CPT) for Dry Land Development at University of Agricultural Sciences, Bangalore

The establishment of these ATCs has not involved the building of entirely new structures and facilities They are affiliated with an existing parent institution to maximize use of existing facilities and technical resources However, they are managerially and financially autonomous

BSDI has been an important activity of CTD wherein CTD has tried to develop a strong and mutually beneficial relationship between buyers who are mainly large and medium scale and sellers who are small scale enterprises Through a series of meetings with the buyers and sellers, CTD identified the following areas that need strengthening

- Setting up of Rapid Product Development Facilities,
- Providing Training, and
- Conducting workshops and state-of–the-art seminars

To promote industry–institute interaction, CTD promoted non-profit companies for the commercialization of technologies developed at the leading scientific laboratories Two such examples are

1 Agricultural Technologies and Services Private Limited (AGRITECH) with University of Agricultural Sciences, Bangalore and Dharwad, Central Horticultural Experiment Station, Chettalli, and College of Agriculture, Naville, Shimoga
2 NAL Technologies and Services Private Limited (NALTECH) with NAL, Bangalore

CTD has been involved with innovative co-financing with other agencies, especially for venture capital assistance to accelerate the commercial introduction of new technologies One of the mandates of CTD was to arrange technology finance for projects CTD established the National Venture Capital Forum (NVCF), as a division of CTD to create awareness and providing much needed information on this kind of financing NVCF acted as a catalyst on the Indian venture capital scene initially, without providing any financial assistance to projects Later it was felt that providing financial assistance in a small way would bring NVCF's credibility with venture capital financing institutions Accordingly, $ 1 5 million was set aside out of the USAID grant resources to provide venture capital type loan assistance to the projects approved for participatory venture capital financing by any other financial/venture capital institutions in the four focus areas of CTD CTD/NVCF assistance was limited to 10% of the total cost of the project, subject to a maximum of Rs 5 million in the form of a soft loan, repayable in 5 years As of June 30, 98, CTD/NVCF has made 14 such loans totaling Rs 49 million ($ 1 4 million) to small and medium companies These resources of Rs 49 million ($ 1 4 million) has leveraged Rs 700 million ($17 million) from other financial institutions and project promoters The reflows (repayments of principal and interest) from these loans are being used by CTD/NVCF to authorize further such loans

CTD provided assistance to 67 beneficiaries in the form of technical assistance, training, equipment procurement and venture capital loans for 97 activities The lists of these beneficiaries with brief description of assistance (Annex 'B') and activities providing details of estimated USAID and actual Host Country Contributions (HCC) in Annex 'C' are attached

4 Summary of Contributions made by Parties and Status of Commodities

CTD's life of the project (LOP) funding estimated as $17 450 million was planned to be provided by USAID ($10 million) and Host Country institutions ($7 450 million) USAID obligated and disbursed $7 6 million in various elements of the project As against this, HCC totaled approximately $72 2 million The element-wise details are as follows

		(In $ '000)
Project Element	USAID	Host Country
Technical Assistance	1,111	
Training	940	
Commodities	3,805	
Monitoring and Evaluation	268	
Other Costs	66	
Venture Capital Assistance	1,408	16,673
CTD Management & Adm		537
In-kind Contribution		54,980
Total	7,598	72,190

The commodity status report as of June 30, 1998 has been received

5 ***Audits***

Financial audits for CTD (including sub-recipients' audits) have been completed up to March 31, 98 CTD has taken necessary follow-up actions Audit report for FY 1997-98 has been sent to RIG for review and issuance The final audit for the period April 1, '97 to June 30, '98, the Project Assistance Completion Date (PACD) of CTD has been completed and report issued by the RIG Audit recommendations made by the RIG in the final audit have been resolved

6 ***Post Project Monitoring Actions***

Pursuant to CTD/ICICI and GOI request of March 26, 1999, USAID agreed, vide its letter of April 22, 1999 to the use of CTD venture capital reflows These reflows will be used by CTD/NVCF to fund new projects in accordance with the objectives and criteria laid down in USAID's original letter authorizing CTD to provide venture capital loan assistance As of June 30, 1999, CTD venture capital reflows totalled Rs 16 3 million (approx $400,000)

CTD will continue to submit USAID a quarterly status report showing details of reflows due and received, amount utilized for funding new projects during the reporting period, and cumulative information as at the end of the quarter A copy of CTD/NVCF audit report will also be sent to USAID These reports will be furnished for information purposes only

7 ***Accomplishments:***

CTD is one of the successful USAID assisted projects for regional development in India CTD is a virtual organization It exists but you can not see it It is a network not an office To achieve its goal of regional economic development, CTD has established a network of organizations that is creating social capital by linking diverse parties, identifying shared interests, and developing opportunities of mutual benefits CTD has leveraged a key resource – retired executives from the Indian civil service to create economic development activity It combines expertise with low costs and personal altruism with clear organizational benefits Some of CTD's accomplishments include

- An NGO birthing NGOs – The network of seven NGOs, Center for Processed Foods (CPF), Agricultural Technologies and Services Private Limited (AGRITECH), NAL Technologies and Services Private Limited (NALTECH), Kumaon Development Center KDC), Canara Community College (CCC), Center for Population Dynamics (CPD), and National Venture Capital Forum (NVCF)
- Cost effective, long-term U S institutional linkages – CTD established long-term linkages with reputed U S institutions by executing Memorandum of Understandings (MOUs) with the Center for

Advanced Food Technology (CAFT), Rutgers University, New Jersey, Department of Bio-resource Engineering (DBE), Cook College, and College of Dupage (COD), Glen Ellyn, Illinois to facilitate collaborative working arrangements in the matters of technical assistance and training to CPF, AGRITECH, and CCC respectively

- Business Incubator Center for Processed Foods at AWAKE – CTD has set up a Business Incubator Center, probably the first of its kind in Asia at the Association of Women Entrepreneurs of Karnataka (AWAKE) The objective of this Center is to provide facilities in food processing to support women-owned micro-enterprises from subsistence level to sustenance level and thereafter into a growth mode This facility has so far been used by 25 women entrepreneurs to try out their products, find out optimum production processes, using best manufacturing practices at pilot plant level and marketing their products prior to even setting up their own production units In addition, the facility is also being used for training purposes Over 100 women entrepreneur have been trained in food processing and management skills to set up their own units
- Computer Literacy in Dakshin Kannada - Canara Community College (CCC), Mangalore, broadly modeled on the American community college concept provides opportunities to people of all ages and from diverse backgrounds to further their education and training to improve their employability Women-in-Development is a major thrust area of CCC and many of the training courses in computers are, especially designed for the career development of women CCC training programs in computers and electronics have introduced large number of children/students/housewives to modern world of computers and electronics, thereby giving them an early start in computer education The computer-aided design (CAD) Center at CCC is the authorized training center of Auto Desk, Inc , USA
- Kumaon Development Center (KDC) – Replicability is the hallmark of CTD's development model for a region CTD has successfully tested this model at the level of a Division of a State consisting of a homogenous geographic region like Kumaon in Uttar Pradesh (U P) as well as two districts of Karnataka, viz Kodagu and Shimoga KDC was promoted by CTD in 1993 to promote regional development at the Kumaon Division level consisting of three hilly districts of Almora, Nainital and Pithoragarh in U P The development models in Kodagu and Shimoga applied Women-in-Development as the cross cutting theme with the four important thrusts for intervention, i e education, employment, enterprise and empowerment
- University-Industry Interface – CTD promoted industry-university interface and helped in starting a new post graduate (four semester) program in computer software at Mangalore University in collaboration with Informatics based industries like Tata Elexi, Digital India, IBM, Wipro Infotech and R & D organization like NAL The course content has been designed by the University with the active participation of the

industry representatives who have incorporated their specific needs in the syllabus The first two semester of the course are devoted to the classroom training in the University using computers while the third and fourth semesters are actually hands-on software development in the participating industries This is the first effort of its kind in India, in which an interface between an academic institution and industries interested in employable courses has been established

- Dry Land Agriculture – For Karnataka, the ability to identify hardy crops and new agricultural products is critical since more than fifty percent of its agricultural land is vulnerable to drought To address the challenge, CTD promoted Agritech, a non-profit company to identify the technology that could not only address some of the difficulties of the dry land agriculture, but could also commercialize and market the technologies developed by various R&D organizations

Ripple Effect

The NGOs promoted by CTD have caused ripple effect For example, some of the significant achievements of Agritech include

- Production of clonal plant material Propagation of mango, cashew and sapota by soft wood grafting has been streamlined to achieve over 90% success Using greenhouse and mist chamber facilities, propagation of tamarind and jackfruit has been to standardized to obtain almost 100% success 25,000 grafts of mango, tamarind, jackfruit, and cashew have been prepared and distributed to farmers

- Plus trees of jack and tamarind have been identified, multiplied and established in the gene bank in one ha at UAS, Bangalore

- Vermiculture project, which used natural organisms (earthworms) for converting organic waste and other materials into compost started at UAS, Bangalore as a pilot project has resulted in the initiation of such projects in 82 villages

- True Potato Seeds (TPS) techniques for commercial production and micro-tubers of parental lines were developed and standardized Twenty farm trials (10 each at Bangalore and Dharwar) were conducted to popularize TPS technology Training programs on TPS technology were also conducted for the progressive farmers from Hassan and Kolar districts of Karnataka Four technical bulletins (three in the local language and one in English), one article on 'Potato' and 'TPS production technology', and two video cassettes were brought out to popularize the technology The commercialization of TPS activity at Agritech resulted in the earning of Rs 1 5 million

*The National Venture Capital Forum (NVCF), initially set up as a division of CTD to spread the message of venture capital in the country, acted as catalyst on the Indian venture capital scene It is a platform that provides assistance and also helps emerging growth companies to get funding from the other venture capital organizations It has close contacts and links with Indian Venture Capital Association, R&D institutions, industry associations and financial institutions The range of NVCF activities is expanding It has been engaged in conducting workshops, seminars, and training programs to promote venture capital concept in India and to initiate policy dialogue Against CTD's $1 4 million for venture capital assistance, NVCF has helped leverage $16 7 million from promoters and other financial institutions

Sustainability

USAID assistance to CTD ended on June 30, 1998 CTD has been able to and will continue to sustain itself through other income sources One source, of course, is the endowment of patron members However, more important source is revenue generation through consulting, education and entrepreneurial activities with income like TPS commercialization by AGRITECH Two other important elements of CTD financial strategy are its emphasis on cost minimization and in-kind support from other big institutions like office space and use of land and facilities for projects/activities Furthermore, all the NGOs promoted by CTD (CPF, Agritech, NVCF, NALTECH, CCC, KDC etc) are self sustaining

8. ***Lessons Learned for the Future:***

CTD's key assets can be summarized as its members' commitments, expertise and social networks The success of CTD has resulted from the following factors

- Long term commitment – The initiative is a nine year long project that began with the establishment of endowments The officials at USAID and CTD, especially Mr P C Nayak has been with the organizations from the beginning The strength of long-term commitments have carried the project through many birthing pains
- Strong leadership - The key to successful mobilization of resources for technological development and use is strong leadership In CTD, senior officials put their reputations on-the-line for program development A culture of collegiality has been successfully created
- Cost conscious culture and structure – Rather than obtaining its own buildings and offices, CTD has leveraged the resources of others It has received expert advice for free through its pro-bono leaders Not only its volunteer leadership cost saving, but it also imbues the organization with an altruistic aura that allows people to have high

expectations of others Within the core cadre of CTD is substantial expertise that goes well beyond social connections

- Networking - Personal, informal networking is an important mechanism for the mobilization of resources for technology application The use of existing, strong institutions is a necessary and successful tactic to deliver quick, cost-effective training
- Transparency – The books of CTD are open, as are its Executive/Finance Committee and Board meetings There is strong commitment to avoid blemishes on the organization's reputation Open discussion among peers is encouraged

Despite its overwhelming successes, CTD continues to face significant challenges to achieve its mission Some of these challenges are

- Recruitment strategy - The recruitment of CTD directors and pro-bono leaders/volunteers has largely depended upon an "old boys network" This can cause a couple of problems One problem is ensuring a variety of people and viewpoints Another problem is limiting the potential to expand and involve more people Cost minimization versus output optimization is a dilemma
- Maintaining the lead - CTD and its sister organizations (NGOs promoted by CTD) have positioned themselves in the most difficult of places vis-a-vis "the market" at the leading technological edge This position means they must be able to continually keep up with, and develop new technology and innovations

CID Dick Edwards – E3, N N Wahi – CO, Peter Thormann – PDEG

Annex 'A'

UNITED STATES AGENCY for INTERNATIONAL DEVELOPMENT

NEW DELHI INDIA

MEMORANDUM **June 25, 1993**

TO: Distribution

FROM: Manmohan Reddy, TDE MReddy

SUBJECT: CTD (386-0507)
Minutes of the MRC meeting held on June 9, 1993 to discuss the recommendations of the mid-term evaluation

REFERENCE: Issue paper dated June 8, 1993

PARTICIPANTS:

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PRO, BRPatil
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Background

A mid-term evaluation of the Centre for Technology Development (CTD) project was carried out between May 2 and 28, 1993 by a team from Eccles Associates Inc The team consisted of Drs Jack Bishop, R Mahadevan, Y. S Rajan and Atul Wad and Dr Kerri-Ann Jones from AID/W The team's final report was received by USAID, New Delhi on May 28, 1993

The MRC meeting considered the most significant recommendations of the report and its discussions are summarized below.

1. **Project Concept** (Mid-term evaluation recommendation-Concept.1).

   The evaluation recommended that CTD and USAID use a simplified and concise statement of the project· "A mobilization of regional resources for technology development and use, in a limited number of focussed areas, for maximum impact" The MRC deliberated at some length on this recommendation and finally decided that the suggested statement was only a

rephrasing of the concept and, therefore, did not necessitate a change in the purpose or goal of the project It was also decided that there is no need to change the log frame and that this rephrasing of the concept ought to be used for external (and internal) publicity to make for better understanding of the project.

Thus, no action was required to be taken by USAID other than informing CTD about the team's suggestion of a simplified project statement.

2. **Greater representation for industry on the governing board and on the focus groups** (Mid-term evaluation recommendation-Concept 2).

Increased industry (private and public) representation is necessary on all focus groups in order to make them more market driven. An industry majority might be immediately possible in the informatics/mechatronics group, but not in dryland farming because this industry is in its infancy as far as the "organized" sector is concerned Simultaneously, a reduction in "CTD administration" membership of the focus groups should be brought about while phasing out inactive members of the groups

A similar change in the composition of the governing board was considered equally essential It was suggested that technically knowledgeable and articulate representatives of industry associations (such as ASSOCHAM) and of women entrepreneurs would makes useful additions to the governing board

It was suggested that USAID should consider attending CTD Governing Board meetings as an observer (Mid-term evaluation recommendation-Operational 6)

It was decided that USAID senior management (Steve Mintz and/or Walter Bollinger) should talk to P. C. Nayak and explore the possibility of implementing these recommendations

3. **Recruitment of a full-time Associate Executive Director using project funds** (Mid-term evaluaion recommendation-Concept 3)

This recommendation was discussed at length and accepted in principle. As the legislation allowing endowments became effective in FY 1992, CTD funds obligated to date cannot be used for the proposed endowment to meet the recurring cost of this position It was, therefore, decided to obligate incremental funds in FY 94 from which the endowment could be

made Meanwhile, considering the need to have this position filled ASAP, it was suggested paying for the associated costs out of the funds currently available in the project until the endowment is established It was also decided to sort out the related administrative actions that would be required to be taken in this regard, including clearance of the RLA on whether or not project authorization amendment would be required for meeting these costs and for creating an endowment, especially in view of the fact that the original PP does not allow USAID funding the recurring expenses of CTD

The Project Officer is to obtain the RLA's clearance on whether or not a Project Authorization Amendment would be required for meeting these costs and for creating an endowment

4. **Replication beyond Karnataka be delayed** (Mid-term evaluation recommendation-Strategic 4)

The MRC accepted this recommendation only in part and decided that "replication" outside Karnataka not be allowed, except for activities in Kumaon for which host country contributions in cash and kind have already been received Other activities outside Karnataka are to be put on hold till the management concerns are addressed and implemented

5. **Curtailment of project disbursements and PACD extension** (Mid term evaluation recommendation-Operational 1)

The MRC decided that existing project commitments and disbursements should not be curtailed, but new ones should not be made until the desired changes in CTD's functioning are effected or underway However, new proposals that meet the prescribed criteria may be approved and funds committed on a case-by-case basis.

PACD extension may be necessary, but this will be decided at the time of the PIR in March/April, 1994

6. **Integration of support groups into focus groups** (Mid term evaluation recommendation-Operational.4):

This recommendation was accepted and it was decided to integrate all the support groups into the focus groups This includes the human resources group although it has a vibrant existence unlike the others Integrating the human resources group as well will allow USAID to "sell" the integration concept more effectively to CTD

PIC Review

The MRC decided that the details of the actual implementation of all the above recommendations should be discussed at a Project Implementation Committee meeting

In addition, it was decided that the following recommendations of the evaluation (which were not formally discussed at the MRC meeting) should be considered by the PIC as to which ones needed to be accepted and acted upon and, if so, in what manner

1 CTD must make the support and development of private sector industry its prime focus and incorporate it into their basic operating philosophy

2 CTD Board should determine the requirements of external funding agencies to consider restructuring the CTD mobilization process philosophy and/or operations in order to attract significant external funding and attain sustainability for the mobilization process

3 CTD management should provide USAID with succinct strategic, tactical, and budgetary plans as envisioned in the project paper.

4 USAID should support CTD in developing measures of performance for the mobilization process and subsidiary operations that will drive operations to achieve project goals

5 CTD should limit the range of areas of activity, focusing on enhancing industrial participation and marketing of existing activities

6 CTD should enhance their public relations and publicize their project concept and objectives to the industry and general public.

7 USAID should provide management counsel and support to enable the potential of the CTD mobilization process to be achieved

8. CTD should increase the technical resources available to them on a regular basis in order to strengthen the process of evaluation of proposals, subsequent monitoring of projects, and to keep track of interrelated activities USAID should reprogram certain funds as required to ensure the one-time ability to put such systems in place

9 USAID and CTD should review and simplify the approval cycle procedures within CTD, ICICI, and USAID to respond to proposals in an expeditious manner CTD should approve and implement proposals quickly to maximize the opportunities for private sector involvement

10 CTD and USAID should modify and implement reporting requirements to reflect the special nature of the CTD mobilization process.

11 CTD must develop and implement record keeping and reporting mechanisms to provide project level and aggregate reporting in a timely and consistent manner Data about the CTD project, focus groups, support groups, individual projects, budget, and actual spending should be available For this purpose, CTD isadvised to hire a full-time manager with considerable project management experience

12. CTD must develop and implement independent reporting and monitoring programs to track independent entities such as NALTECH and CPF that it has created.

Distribution

D, WGBollinger
DD, SPMintz
PDI, JTarter
CO, NNWahi
PRO, BRPatil
PDI, KCKapoor
PDI, SNanda
TDE, JAGrayzel
TDE, AJYates
TDE, RKBerry
TDE, MReddy

Annexure 'B'

List of Beneficiaries

1 **Agricultural Research Station, Ullal, Mangalore.**
Grant-in-aid towards setting up of a tissue culture laboratory and mist propagation unit for standardisation and micro-propagation work in cashewnut, banana, sweet potato, etc

2. **Arion Technologies Limited, Bangalore.**
Venture Capital type of loan assistance for partial financing of cubic printing project

3 **Artificial Limb Centre, Chikmaglur**
Grant-in-aid towards setting up of a artificial limb centre

4. **Artificial Limb Centre, Mangalore**
Grant-in-aid towards setting up of a artificial limb centre

5 **Association of Women Entrepreneurs of Karnataka, Bangalore.**
Procurement of equipments to set up a business incubator for processed foods to enable women in utilising the equipments prior to setting up their own production units

6. **Bharat Biotech International Limited, Hyderabad**
Venture capital type of loan assistance for partial financing to manufacture and market second generation hepatitis-b vaccine for the prevention of jaundice and liver cancer, using yeast as the basic unit in the production system

7. **Canara Centre for Continuing Education, Mangalore**
Procurement of equipment for training in computers, micro-processors and laboratory equipments

8. **Canara Community College, Mangalore**
Procurement of equipments for training in basics of computers to high end computer courses such as oracle, visual c++, unix, pascal, fortran etc desktop publishing, autocad & graphics

9 **Canara High School, Mangalore.**
Procurement of equipment for basic level course in P C maintenance

10. Canara Pre-university College, Mangalore

Procurement of electronic equipments to enable students to gain hands-on experience in addition to their theoretical knowledge

11. Capsein Bio-lab Limited, Chennai.

Venture capital type of loan assistance for partial financing to develop and standardise "encapsulated" flavour technology

12. Central Horticultural Experiment Station, Kodagu District, Karnataka.

Procurement of equipment towards setting up of a pilot plant for production of trichoderma-a biological control agent, production of virus free citrus plants , agricultural waste management through mushroom cultivation and vermicomposting project

13 Central Manufacturing Technology Institute, Bangalore

Procurement of equipment for machining moulds and dies and training of technical personnel on these machines

14. Central Power Research Institute, Bangalore

Procurement of equipments towards setting up of a pilot plants for production of methyl ester of rape seed oil and production of epoxy novolak resin

15 Centre for Continuing Education, Indian Institute of Science, Bangalore.

Procurement of equipment for training in computers

16. Centre for Electronics Design and Technology, Indian Institute of Science, Bangalore.

Upgradation of the training facilities of the centre to introduce EDA in the design of integrated circuits especially programmable logic devices and field programmable arrays

17. Centre for Research and Development, Mumbai

Grant-in-aid for conducting two training programmes in venture capital in Bombay & Pune

18. Centre for Scientific and Industrial Consultancy, Bangalore

Grant-in-aid for procurement of office automation facilities to strengthen the role of CSIC in promoting and streamlining the interaction between the academia and as a meeting place for members of the industry

19. Chaitanya Cold Storage Limited, Bangalore

Venture capital type of loan assistance for partial financing for setting up of a storage facility for processed foods and agro based products

20. College of Agriculture, Shimoga District, Karnataka.

Grant-in-aid for setting up training cum demonstration facility for mushroom cultivation

21. Computer Society of India, Bangalore.

Procurement of equipment for training in computer literacy

22 Confederation of Indian Industry, Bangalore

Procurement of equipment for setting up of a databank to provide information, advice and consultancy services to Industry & Government

23 CSI Redfern Memorial Hospital, Hassan District, Karnataka

Grant-in-aid towards setting up of a artificial limb centre

24. Department of Management Studies, Indian Institute of Science Bangalore.

Procurement of software to train students of Management Studies to monitor the trends in the economy and develop software packages for use by financial, educational, and training institutions in addition to developing software for mutual funds for management applications

25. Department of Mechanical Engineering, Indian Institute of Scienc Bangalore

Procurement of equipment towards rapid product development facility fc small and medium industry personnel

26 Department of Microbiology and Cellbiology, Indian Institute Science, Bangalore.

Procurement of equipments to strengthen the work concernir standardisation of techniques for development of economically usef tissue culture plants

27. **Electronic Service and Training Centre, Ramnagar,Uttar Pradesh**
Procurement of equipment for training in the operation of CNC machines

28. **Federation of Karnataka Chambers of Commerce and Industry, Bangalore**
Procurement of equipment for setting up a databank on economy markets, finance, technolpgy and management

29. **G-Team Educationals and Engineering Products Pvt Ltd, Bangalore**
Venture capital type of loan assistance for partial financing of its expansion cum backward integration project including quality standards and systems

30 **G.B Pant University for Agriculture and Technology, Pantnagar,Uttar Pradesh.**
Procurement of equipments towards setting up of a analytical and quality control laboratory

31 **Government Tool Room and Training Centres at Bangalore and Mangalore**
Procurement of equipment for training in programming and operation of CNC machines VMC machines training in desk top publishing and setting up of a electronic pre-press training centre

32 **Greater Mysore Chamber of Industry, Bangalore**
Procurement of equipment for setting up of a databank to provide information, advice and consultancy services to Industry and Government

33 **Hebich Technical Training Centre,Balmatta, Mangalore**
Procurement of equipment for training in programming and operation of CNC machines and computer training

34 **Horticultural Producers' Co-operative Marketing and Processing Society Limited, Bangalore**
Procurement of equipments towards setting up of a fruit and vegetable packaging (f&vp) plant

35 **Indian Institute of Horticultural Research, Bangalore**
Procurement of equipments towards setting up of a product development laboratory

36 Intertec Communications Private Limited, Bangalore

Venture capital type of loan assistance for partial financing to expand the business from the current domestic software services market to export software services market

37.Kamala Nehru College for Women, Shimoga District, Karnataka.

Grant-in-aid towards setting up of a business incubator for processed foods

38.Karnataka Regional Engineering College, Surathkal, Mangalore

Procurement of equipment for hands-on experience to students of technical institutions in computer numerically controlled machine programming and operations, autocad, and PCB design

39 Kothari Biotech Limited, Chennai.

Venture capital type of loan assistance for partial financing of its tissue culture project to set up a tissue culture laboratory cum production centre and green houses and also facilities for cultivation of geranium and production of geranium oil

40.Krishi Vigyan Kendra, Gonikoppal, Kodagu District, Karnataka

Grant-in-aid towards establishment of a tissue culture laboratory and project on cookery and tailoring at the home science laboratory

41 Kumaon Development Centre, Uttar Pradesh

Procurement of equipment for training in computer applications

42.Lactochem Limited, Chennai

Venture capital type of loan assistance for partial financing for manufacturing of pharmaceutical grade lactic acid by fermentation of sugar from molasses

43 Lal Bahadur Shastri Arts and Science College, Sagar, Shimoga District, Karnataka

Grant-in-aid towards setting up of a tissue culture laboratory to develo protocols for the micro propagation of important horticultural, medicin and forest trees and also rapid multiplication of elite tree crops

44 M E I Polytechnic, Bangalore

Procurement of equipments for imparting basic level course in P(Maintenance

45. **Mangalore University, Mangalore**
Procurement of equipment for post-graduate course in computer software, grant-in-aid towards setting up of a tissue culture laboratory to develop techniques for the tissue culture and micro propagation of orchids

46 **Microcon Instruments and Systems Limited, Bangalore**
Venture capital type of loan assistance for partial financing of its expansion project in manufacturing hardware and also providing software solutions

47 **National Aerospace Laboratories, Bangalore**
Grant-in-aid towards procurement of programmable control Pressure Differential Scanning Calorimeter Thermo Gravimetric Analyser, Programmable Drop Weight Impact test equipments for analysis of polymers and composites at the COMPAC testing facility, procurement of equipments towards setting up of a facility for development of prototypes of Metal-Diamond Composite coated wheels at the Material Science division, NAL and procurement of equipment towards setting up of Autocad Centre Geographic Information Systems Centre and Desktop Publishing Centre

48 **Nettur Technical Training Foundation (NTTF) and NTTF Electronics Centre, Bangalore**
Procurement of equipments for training in basic level course in P C Maintenance, training in operation and maintenance of CNC machines

49 **New Government Electric Factory, Bangalore**
Procurement of equipment for training in computers and also develop a databank of suppliers (Small and Medium scale industries)

50 **Rashtreeya Vidyalaya College of Engineering, Bangalore**
Procurement of basic high technology machine tools for training students and providing assistance to SSI units

51 **Regional Research Station, Brahmavar, Mangalore**
Grant-in-aid towards setting up of a mist propagation unit

52 **Roshini Nilaya, Mangalore**
Procurement of equipment for promoting computer literacy

53 Sahyadri Gramin Bank, Shimoga District, Karnataka
Procurement of equipment for training in computers

54 Saradavilas Educational Institution , Mysore
Procurement of equipment for setting up of desk top publishing centre

55 St Agnes College,Mangalore
Procurement of equipment for training in programming of Unix & C, Computer training

56 St Aloysius College, Mangalore
Procurement of equipment towards setting up of desk top publishing facility, setting up of tissue culture laboratory for taking up micro propagation work on economically important trees of the district as a centre for tissue culture training, for preparation of protocols of selected medicinal and aromatic plants and trees/reeds of economic importance such as solid bamboo

57 Sustainable Transformation of Rural Areas (SuTRA)/ Application of Science and Technology to Rural Areas, Indian Institute of Science (ASTRA), Bangalore
Grant-in-aid towards augmenting the infrastructural facilities for propagation of medicinal aromatic and plants of economic importance in addition to standardising drying methods for various medicinal herbs under controlled temperatures and also installation of low cost dryer for demonstration and training

58.Taurus Novelties Limited, Bangalore
Venture Capital type of loan assistance for partial financing to manufacture of Dolomite novelties and figurines project

59 University Colleges, Mangalore and Mercara
Procurement of equipment for training in computers

60 University of Agricultural Sciences, Bangalore
Procurement of equipment towards setting up of greenhouse mist chamber and shade house project, analytical and quality control laboratory, Grant-in-aid towards setting up of tissue culture laboratory to undertake work on micro propagation strategies vermiculture project, upgradation of infrastructural facilities of the department of medicinal and aromatic plants and augmenting the facilities for medium and low cost polyhouses

61. University of Agricultural Sciences, Dharwad, Karnataka

Procurement of equipments towards setting up of greenhouse, mist chamber and shade house project, tissue culture laboratory, analytical and quality control laboratory, true potato seed production and its utilisation for commercial potato production

62. Utpadana Technology Private Limited, Bangalore.

Venture capital type of loan assistance for partial financing of a small design facility to develop special tools and fixtures

63. Vimta Labs Limited, Hyderabad

Venture capital type of loan assistance for partial financing of its project of development of analytical laboratory facilities and testing of food and agri tech products

64. Wheat Products Promotion Society, New Delhi

National survey on future perspectives for wheat and wheat based products Industry

65. Widia (India) Limited, Bangalore

Venture capital type of loan assistance for partial financing of project "development of a flexible manufacturing system for milling cutters and tool holders"

66. Women's National Education Society, Mangalore

Procurement of equipment for B Sc computer science programme

67 Xcyton Diagnostics Limited, Bangalore

Venture capital type of loan assistance for a partial financing to design, develop, manufacture and market high quality immuno-diagnostic kits for selected infectious diseases

Annex 'C'

29

SUMMARY STATEMENT OF HOST COUNTRY CONTRIBUTION

As on June 30,1998

Project Title Centre for Technology Development (CTD) **Project No** 386-0507

In Rs 000

Sl No	Project Element/Activity	Estimated Budget			Cumulative HCC			Remarks
		AID	HCC	Total	In-Kind	Cash	Total	
A	TECHNICAL ASSISTANCE							
1	Inkind Contribution of CTD, Governing Board Members, Honorary Director and Secretanat Members of the Executive Committee, Consultants etc	—	$300 00	$300 00	$315 25	—	$315 25	Completed
	Total (A)	—	**$300 00**	**$300 00**	**$315 25**	—	**$315.25**	

In Rs '000

Sl No	Project Element/Activity	Estimated Budget			Cumulative HCC			Remarks
		AID	HCC	Total	In-Kind	Cash	Total	
B	TRAINING							
1	GTTC Women in Electronics	1,000 00	1,200 00	2 200 00	1,278 75	36 00	1,314 75	Completed
2	CCCE Mangalore Electronics	1,000 00	1,000 00	2,000 00	1,152 22	55 72	1,207 94	Completed
3	UNIX at St Agnes Colege	310 00	300 00	610 00	425 75	60 00	485 75	Completed
4	CNC Lathes at HTTI, M lore	700 00	525 00	1 225 00	413 10	100 00	513 1	Completed
5	Computer Trg at HTTI M lore	120 00	240 00	360 00	343 05	26 33	369 38	Completed
6	CNC Retrofit at HTTI, M lore	700 00	525 00	1 225 00	583 19	75 00	658 19	Completed
7	Computers at GMCI, B lore	150 00	200 00	350 00	232 49	5 74	238 23	Completed
8	Vermiculture Lab UAS, GKVK, Bangalore	350 00	450 00	800 00	418 55	63 11	481 66	Completed
9	DTP Centre at GTTC, B lore	1,105 00	345 00	1 450 00	367 58	34 24	401 82	Completed
10	UNIX at Mangalore University	450 00	650 00	1,100 00	749 80	5 24	755 04	Completed
11	DTP Centre at CCC, M lore	588 48	250 00	838 48	289 91	16 53	306 44	Completed
12	Tissue Culture Trg -St.Aloysious College, M lore	286 08	1 000 00	1,286 08	1,451 47	15 61	1,467 08	Completed
13	CCE- IISc (UNIX) Bangalore	650 00	1,300 00	1 950 00	1,480 07	128 91	1608 98	Completed

In Rs 000

Sl No	Project Element/Activity	Estimated Budget			Cumulative HCC			Remarks
		AID	HCC	Total	In-Kind	Cash	Total	
B	TRAINING							
14	Computers for CSI, B'lore	150 00	450 00	600 00	507 00	12 42	519 42	Completed
15	DTP at St.Agnes College M'lore	150 00	450 00	600 00	742 62	44 00	786 62	Completed
16	DTP at St Aloysius College M lore	150 00	250 00	400 00	230 90	44 00	274 90	Completed
17	Computers for Trg at Roshni Nilaya, Mangalore	150 00	250 00	400 00	241 00	26 33	267 33	Completed
18	Tissue Culture Lab at UAS B lore (incl renovation)	835 00	650 00	1 485 00	676 30	42 00	718 3	Completed
19	CCC PC Training	275 00	1,000 00	1,275 00	1,392 86	15 89	1,408 75	Completed
20	NEC Bangalore-PC Maintenance	90 00	800 00	890 00	913 89	69 41	983 3	Completed
21	MEI Polytechnic-PC Maintenance	260 00	1,000 00	1,260 00	1,176 02	12 46	1,188 48	Completed
22	NGEF-PC Trg Program	150 00	300 00	450 00	444 99	21 19	466 18	Completed
23	FKCCI-Computers for trg	60 00	240 00	300 00	332 38	14 64	347 02	Completed
24	Computer for CII, B'lore	60 00	400 00	460 00	352 50	5 62	358 12	Completed
25	Computers for Trg, CCC, M lore	4,630 57	1,000 00	5,630 57	1,446 72	62 33	1,509 05	Completed
26	Hardware Trg Centre at CCC, M'lore ,	1,500 00	1,000 00	2,500 00	1,466 14	16 55	1,482 69	Completed

In Rs 000

Sl No	Project Element/Activity	Estimated Budget			Cumulative HCC			Remarks
		AID	HCC	Total	In-Kind	Cash	Total	
B	TRAINING							
27	CNC Lathes at GTTC Baikampadi	2 500 00	2,500 00	5 000 00	3 359 40	210 00	3,569 40	Completed
28	Auto CAD trg Centre at CCC , Mangalore	3,926 47	2,500 00	6 426 47	1,883 50	93 00	1 976 50	Completed
29	CTD Digital Centre at CCC	5 000 00	3,750 00	8 750 00	1 421 30	121 48	1,542 78	Completed
30	Training in Computers at Canara College M lore	1 592 13	750 00	2 342 13	561 47	107 16	668 63	Completed
31	Training in computersat Canara High School Urva for House wives	500 00	400 00	900 00	445 14	16 08	461 22	Completed
32	Trg of Trainers in Electronics at Canara College M lore	2 500 00	2 500 00	5 000 00	2 688 36	9 46	2 697 82	Completed
33	T V Training Centre for Women at CCC M lore	500 00	750 00	1 250 00	1 318 14		1 318 14	Completed
34	Computer Trg Centre at University College Mangalore	750 00	750 00	1 500 00	1 175 12	2 99	1,178 11	Completed
35	Computer Trg Centre at University College Mercara	750 00	750 00	1 500 00	1 101 12	2 99	1 104 11	Completed
36	Business Incubator at Canara Girls High School M lore	1 000 00	750 00	1 750 00	1 083 85	29 50	1 113 35	Completed
37	Dept of Mgt Studies IISc -S/w for Trg (Metastock)	50 00	250 00	300 00	285 00		285 00	Completed
38	Tissue Culture Trg Centre at ARS Ullal	500 00	500 00	1 000 00	1 003 66	32 10	1 035 76	Completed
39	Tissue Culture Trg Centre at Mangalore University	500 00	500 00	1 000 00	1,526 35	30 14	1 556 49	Completed
40	Lab for Health Care at Lady Goschen Hospital M lore	500 00	500 00	1,000 00	1,123 78	7 51	1,131 29	Completed
	Total (B)	**36,438 73**	**32,925 00**	**69,363 73**	**38,085 44**	**1,671 68**	**39,757 12**	

In Rs '000

Sl No	Project Element/Activity	Estimated Budget			Cumulative HCC			Remarks
		AID	HCC	Total	In-Kind	Cash	Total	
C	COMMODITIES							
1	GTTC Bangalore-CNC-STC-15	2,000 00	3,600 00	5 600 00	3 475 37	639 42	4 114 79	Completed
2	KREC Surathkal ASIC, NISA Viewlogic etc	980 00 $23 50	1 500 00	2 480 00 $23 50	2 120 99	-	2 120 99	Completed
3	CPRI Pilot Plant (MRSO)	1 700 00	1 000 00	2 700 00	973 60	23 95	997 55	Completed
4	NAL Compac facility	$185 00	6 500 00	6 500 00 $185 00	6 409 99	44 00	6 453 99	Completed
5	VMC at CMTI Bangalore	3 000 00	2,250 00	5 250 00	1 455 25	780 00	2 235 25	Completed
6	VMC at GTTC Bangalore	3 000 00	2 250 00	5 250 00	1 108 55	876 77	1 985 32	Completed
7	AWAKE Business Incubator	190 94	700 00	890 94	1 047 84	54 09	1 101 93	Completed
8	NTTF Peenya 'Bangalore--CNC Machine	2 000 00	10 000 00	12 000 00	9 291 04	2 280 70	11 571 74	Completed
9	CNC Trg Centre at NEC	2,000 00	2 500 00	4 500 00	4 731 25	205 00	4 936 25	Completed
10	RPDF at NEC	1,000 00	2,000 00	3 000 00	1 855 00	60 61	1 915 61	Completed
11	FPGA Software at CEDT IISc Bangalore	$179 52	2 500 00	2 500 00 $179 52	3 251 20		3 251 20	Completed
12	Rapid Multiplication of economically useful tree crops at MCB-IISc B lore	1,310 00	1 500 00	2 810 00	2 407 90		2 407 90	Completed

In Rs 000

Sl No	Project Element/Activity	Estimated Budget			Cumulative HCC			Remarks
		AID	HCC	Total	In-Kind	Cash	Total	
C	COMMODITIES							
13	AITC at NAL Bangalore	10 000 00	10 000 00	20 000 00	8 178 64	750 00	8 928 64	Completed
14	Green House and Mist Chamber at UAS Bangalore	2 916 11	2 500 00	5 416 11	6 376 25		6 376 25	Completed
15	Green House and Mist at UAS Dharwar	3 002 80	2 500 00	5 502 80	4 757 49		4 757 49	Completed
16	AQCL at UAS Bangalore	2 000 00	1 500 00	3 500 00	3 076 69	150 00	3 226 69	Completed
17	AQCL at UAS Dharwar	2 068 36	2 000 00	4 068 36	2 034 19	206 50	2 240 69	Completed
18	TPS facility production facility at UAS Bangalore	4 300 95	2 000 00	6 300 95	2 374 37	175 40	2 549 77	Completed
19	TPS Production facility at UAS Dharwar	1 322 00	1 000 00	2 322 00	1 575 24	100 00	1 675 24	Completed
20	Product Development Lab at IIHR Bangalore	3 800 00	4 000 00	7 800 00	2 611 35	1 509 20	4 120 55	Completed
21	Rapid Product Development Facility at Dept of Mech Engg Indian Institute of Science B lore	$76 00	2 000 00	2 000 00 $76 00	1 596 75		1 596 75	Completed
22	Sarada Vilas Education Institution Mysore	381 07	125 00	506 07	935 16	133 89	1 069 05	Completed
23	Computer Training Centre Ranikhet	465 96	510 87	976 83	1 655 64		1 655 64	Completed
24	Sahyadri Gramin Bank, Shimoga	225 00	100 00	325 00	154 28	89 25	243 53	Completed
25	Electronics Service & Training Centre, Ramnagar	1 830 00	500 00	2 330 00	1 941 29	473 90	2 415 19	Completed
26	Fruit & Vegetable Packaging HOPCOMS, B'lore	2 557 00	4,174 00	6 731 00	4 816 94	4,310 80	9 127 74	Completed

In Rs 000

Sl No	Project Element/Activity	Estimated Budget			Cumulative HCC			Remarks
		AID	HCC	Total	In-Kind	Cash	Total	
C	COMMODITIES							
27	Tissue Culture Laboratory, UAS Dharwad	1,054 31	1 500 00	2 554 31	3 213 48	68 41	3 281 89	Completed
28	RVCE, College	1 500 00	1 150 00	2 650 00	581 96	1,194 17	1 776 13	Completed
29	AQCL,G B Pant University of Agriculture &Technology	985 77	1 056 21	2 041 98	456 09	1,056 22	1 512 31	Completed
30	Trichoderma Project CHES, Chettalli Kodagu	420 15	636 55	1 056 70	605 25	31 30	636 55	Completed
31	Virus free citrus plant project CHES, Chettalli Kodagu	1 634 00	718 38	2 352 38	678 36	40 02	718 38	Completed
32	Mushroom Project CHES Chettalli Kodagu	284 94	1 039 96	1 324 90	1 016 04	23 92	1 039 96	Completed
33	Mushroom Project College of Agriculture Shimoga	1 971 12	525 49	2 496 61	476 20	49 29	525 49	Completed
34	TC Lab Lal Bahadur Shastry College Shimoga	782 82	288 45	1 071 27	225 48	62 97	288 45	Completed
35	TC Lab and Cookery Unit KVK Gonikoppal	1 762 36	972 01	2 734 37	897 96	74 05	972 01	Completed
36	FBI Kamala Nehru College Shimoga	221 68	1 092 82	1 314 50	1 078 18	14 64	1 092 82	Completed
37	Government Potato Seed Production Farm, Gagar	42 20	14 20	56 40	10 23	3 97	14 20	Completed
38	Government Potato Seed Production Farm, Patauna	39 70	14 19	53 89	10 21	3 97	14 18	Completed
39	Government Potato Seed Production Farm Munisyari	43 70	14 20	57 90	10 23	3 97	14 20	Completed
40	Government Potato Seed Production Farm Pithoragarh	41 30	14 10	55 40	10 22	3 88	14 10	Completed
41	KRC Farm, Kamola	40 80	14 10	54 90	10 22	3 88	14 10	Completed
42	Polyhouse Project ASTRA, Bangalore	62 40	2 643 31	2 705 71	2 643 31		2 643 31	
	Total (C)	62 937 44 $464 02	**80,903 84**	**143,841 28** -$464 02	92 135 68	**15,498 14**	**107 633 82**	

In Rs 000

Sl No	Project Element/Activity	Estimated Budget			Cumulative HCC			Remarks
		AID	HCC	Total	In-Kind	Cash	Total	
D	MONITORING & EVALUATION							
1	Contribution by the Consultants and the Honorary member in charge of the Monitoring and Evaluation	—	$100 00	$100 00	$163 12	—	$163 12	Completed
	Total (D)	—	**$100 00**	**$100 00**	**$163 12**	—	**$163 12**	

In Rs 000

Sl No	Project Element/Activity	Estimated Budget			Cumulative HCC			Remarks
		AID	HCC	Total	In-Kind	Cash	Total	
E	OTHER COSTS							
1	CSIC-OHP Slide Projectors CD ROM etc	660 22	375 00	1,035 22	316 44	26 73	343 17	Completed
	Total (E)	**660 22**	**375 00**	**1035 22**	**316 44**	**26 73**	**343 17**	

Sl No	Project Element/Activity	Estimated Budget	Cumulative HCC	Remarks

Sl No	Project Element/Activity	Estimated Budget			Cumulative HCC			Remarks
		AID	HCC	Total	In-Kind	Cash	Total	
F	VENTURE CAPITAL							
1	Flexible Manufacturing System at Widia India Ltd	3 500 00	32 500 00	36 000 00	—	34 500 00	34 500 00	Completed
2	Analytical & Quality Control Lab for Agribased Industries at Vitmta Lab	2 500 00	89 400 00	91 900 00	—	87 900 00	87 900 00	Completed
3	Hi tech CNC Machines at Utpadana Technology Pvt Ltd	1 000 00	9 020 00	10 020 00	—	8 901 73	8 901 73	Completed
4	Expansion of cables and allied products at G Team Educationals and Engg Products Pvt Ltd	2 000 00	19 000 00	21 000 00		14 099 00	14 099 00	Completed
5	Expansion project on Software Design at Microcon Instrument Systems Ltd	4 000 00	36 600 00	40 600 00	—	37 638 00	37 638 00	Completed
6	Manufacture of Dolomite novelties & figurines at Taurus Novelties Limited	5 000 00	97 000 00	102 000 00	—	98 692 00	98 692 00	Completed
7	Tissue Culture Project at Kothari Biotech Limited	5 000 00	55 000 00	60 000 00	—	47 300 00	47 300 00	Completed
8	Expansion project on export software services market at Intertec Communications Pvt Ltd	2 000 00	18 000 00	20 000 00	—	13 450 00	13 450 00	Completed
9	Project for manufacture of Lactic acid from Molases at Lactochem Limited	5 000 00	59 710 00	64 710 00	—	50 444 06	50 444 06	Completed

In Rs '000

Sl No	Project Element/Activity	Estimated Budget			Cumulative HCC			Remarks
		AID	HCC	Total	In-Kind	Cash	Total	
F	VENTURE CAPITAL							
10	Project for setting up of Cubic Printing system at Anon Technologies Limited	5 000 00	67,000 00	72 000 00	—	48 109 69	48 109 69	Completed
11	Project for manufacture of natural colours Oleoresin flavours and fragrances at Capsien Biolab Limited	5 000 00	55 200 00	60 200 00	—	60 252 00	60 252 00	Completed
12	Project for manufacture of Immuno Diagnostic Kits at Xcyton Diagnostics Limited	2 000 00	21 730 00	23 730 00	–	14 461 55	14 461 55	Completed
13	Project for manufacture for Hepatitis B Vaccine at Bharat Biotech International Limited	5 000 00	122 100 00	127 100 00		89 183 00	89 183 00	Completed
14	Project for setting up of Cold Storage Units at Chaitanya Cold Storage Private Limited	2 000 00	18 000 00	20 000 00		10363	10 363 00	Completed
	Total (F)	**49,000 00**	**700,260 00**	**749,260 00**	—	**615,294 03**	**615,294 03**	

NOTE

1 The Host Country Contribution in terms of A) Technical Assistance and D) Monitoring and Evaluation are estimated and details are available in the CTD Office The calculation is made on cumulative basis
2 In this statement the HCC is estimated on the accrual basis of Accounting as suggested
3 The remarks represent the disbursement status of CTD contribution However, the HCC, including beneficiaries is computed on an annual basis for a total period of five years

Signature
Name of the authorised Rep Mr K S N Murthy
Designation Director

Certification of the USAID Project Officer